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ABSTRACT

The feasibility of using simulation games as an instructional tool in the leisure services classroom is examined. (JD)

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SIMULATION AND RECREATION EDUCATION

Daniel D. McLean*

The use of simulation gaming in recent years for teaching and research purposes has grown dramatically. Simulation gaming has been applied at all levels of education from elementary through graduate school. Simulation gaming has been hailed as a "new and relevant" teaching method which allows greater student participation and control in the educational process. It has also been extensively used as a training and research tool in business and government.

The terms simulation and games have become almost analogous when the subject is discussed. Yet, the two terms can be defined separately. Games are most easily identified as ". . . any simulated contest (play) among adversaries (players) operating under constraints (rules) for an objective." 2:8) In many games the objective has been reduced to a single factor--winning. However, this is not true in all cases. More games are being developed in which cooperation is required of the participants.

Simulations are defined as an operating model of some physical or social portion of reality. Thus, the purpose of a simulation is to recreate a segment of reality so that it might be better understood by those who are involved in the simulation. It is not feasible to consider that all of reality can be recreated in any one simulation.

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Simulations in the physical form occur most often in science and industry. Some examples of physical systems which have been modeled and simulated are the flow of underground water, the behavior of ion fields, the aging of geological systems, and the growth patterns within forests. Often these simulations are conducted with the aid of a computer.

Social simulations have gained widespread acceptance in recent years. The games range from simulations of ghetto problems to advanced personnel administration simulations. One forty hour simulation reproduces a sales office function with a complete staff of secretaries, sales personnel, management and customers in an attempt to train participants in office operations.

Chess is probably the ancient forerunner of modern simulation gaming. It was first played in India about 1500 years ago and although it was not necessarily considered a military training vehicle, it was recognized as a method of developing self discipline and strategic concepts. It was not until the eighteenth century that methods were developed which permitted the use of simulation games for military training purposes. Prussian military leaders developed the conflict simulation (Kriegspiel) which was used as a prototype for a number of conflict simulations developed in Europe and the United States in the nineteenth century. During World Wars I and II the use of conflict simulations became more common as design advances were made. Following World War II the United States entered conflict simulations with a revived enthusiasm and has since developed many new complex computer simulations which go beyond the traditional arena of conflict simulations.

Business was among the first non-military concerns to recognize the advantages of simulation gaming as a training tool for management. The American Management Association published the first widely accepted management game in 1956 and by 1958 numerous management games were available.

Boocock and Schilds identify three district phases in the growth of educational simulations. Phase one, which lasted until 1962 or 1963, was the "acceptance of faith" phase. This was the period of enthusiasm about a new found educational tool. Most reports dealt with new games and their potential in school systems. Unfortunately little hard research was conducted during this phase. (1:15)

Phase two, the "post honeymoon" period lasted from 1963 to 1965. This period was characterized by the use of controlled experiments with games which, regretably, led to generally inconclusive decisions. These unsettling results led to several different attitudes toward simulation gaming. One attitude maintained the hypothesis that games do teach, but that we do not know how or why. A second attitude was to state that even though games may not teach as initially thought, however, they do at least produce certain limited effects; motivation being probably the most recognizable. (1:16)

Phase three has been one of "realistic optimism" and is characterized by the field testing of simulation games in a wide variety of settings. The purpose is to accumulate data on the learning effects of specific games and to revise and clarify hypotheses concerning what games can do in the classroom. (1:17)

A number of advantages of using simulation gaming in the classroom have been cited by various researchers and authors. Motivation is probably the most widely accepted advantage of simulation gaming. Where motivation is low, simulation gaming has proven, when properly conducted, to be able to motivate participants. Gordon indicates that simulation games contain ". . . several dramatic features that are independent of the subject or issues to be dealt with." (2:19) While we assume that a student is motivated in the classroom by lectures, textbooks, movies, etc.; in a simulation game, interest in the subject matter is not a prerequisite for involvement in it. The objective is winning, and learning may be a by-product of it.

Simulation games demonstrate the problems of decision making. Participants are required to establish decision priorities, appraise available information, and select and execute various courses of action under conditions of incomplete information, uncertainity, risk, and pressure of time and consequences. The decision making process encourages that students acquire knowledge and that such knowledge is applied in such a manner so as to enhance the decision making process. The game will provide immediate feedback to the participants decision and allow the participant to evaluate the results of his actions.

Teacher student relationships are effected as a result of simulation gaming. No longer is the teacher the dominant force in the classroom. The teacher takes a back seat to the student in the simulation game and allows the student to make his own decision and evaluate that decision. The teacher may act as a coach in some simulations, but should not interfere with the game process. This will allow both the teacher and the

student to view each other in a new light.

Simulation games can lead to a more relevant inquiry by the participants in the simulation. In many simulations participants may have entered it with a shallow knowledge of the area concerned. However, as a result of participation a desire for additional knowledge in the subject area may develop within the participant.

Simulation games are a more realistic and relevant presentation of the learning experience. A number of educators hold that simulation is the only way to bring reality into the classroom. There is little doubt that a well constructed and well administered simulation game can make the topic being studied far more relevant to the participants. This is one of the great issues in education--that the information being presented is not relevant to the experiences of the student.

Simulation games may cause participants to learn about the system which is being modeled. Because there is a definite model behind each simulation the participants become aware of this model during the course of play. It is easier for a student to understand the municipal budgetary process if he is involved in it than if he only listens to other individuals talk about it.

The type of simulation model developed will determine what the participant will learn. If the model is constructed to simulate the workings of a park and recreation budget system, then those involved in the simulation will develop a working knowledge of the budgetary process. A natural outgrowth of participation in the simulation game would be the further development of communication skills, decision making, persuasion and influence

resisting skills. Attitudes of the players may also be effected by participation in the simulation.

A simulation model designed to project future recreation and park facility needs of a region would initiate different learning processes than those of the budgetary simulation. The purpose of this model, unlike that of the budgetary model, is to determine what the recreation and park facility requirements for a given region will be in the future. In both simulations many of the same skills are used.

Simulation gaming does not yet have the backing of extended and proven research. Although many research projects are currently being developed and conducted, all research to date has been inconclusive as to the value of simulation games. The basic problem encountered is that there has not been a valid reserach tool developed for evaluating the effectiveness of games.

Gordon indicates that several factors explain the lack of research support for the use of simulation games in education. First, the simulation games technique is so new that there has not been sufficient time for collecting data and developing systematic evaluation procedures. Secondly, she cites the difficulty in establishing experimental controls for evaluating any technique in education. The most serious handicap is the lack of a measuring instrument. Until such time as a measuring instrument can be developed, simulation gaming will suffer for lack of valid evidence to prove its effectiveness.

It is through simulation gaming that the world can be brought into the recreation classroom so that the student can begin to relate what is being

taught to actual experiences. Granted, notall experiences can be adapted to simulation games--and not all should. But there is a void that can be filled, and simulation can do something to begin to fill that void.

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